TRAC

May 14, 1971 10:00am

NATIONAL ARCHIVES THEATER

# TRENDS IN RECORDS MANAGEMENT

## SPEAKER

### Everett O. Alldredge

National Archives and Records Service

PRESIDING: Joseph F. Gorman

Atomic Energy Commission

INFORMATION AND RECORDS ADMINISTRATION CONFERENCE

TRENDS IN RECORDS MANAGEMENT

By Everett O. Alldredge


I find that I tend to shy away from talks about trends. I wouldn't be here
today except that I haven't found a way to say "No" to Joe Gorman.

My shyness about trends is because they reach into the future as well as into
the past, and the future requires forecasting. My crystal ball has always been
murky. I've tried to meet the demands of the future by planning, built around
the possible options (and the improbable ones), and thus reap the rewards of
prescience. But this isn't the same as being a guru. Indeed, one of the trends
of the day--although not a records management trend--is the growth of a "futures
industry." According to The Futurist, the bimonthly publication of the World
Futures Society, headquartered here in Washington, there are some 600 people
currently engaged in full-time forecasting. Considering the capability of
some of the market research going on, it's more than tea leaves and manipulating
grandmother's battered old Ouija board. Approximately 90 institutions of higher
learning in the U.S. and Canada are now offering courses in futurism.

Having confessed my lack of faith in my being endowed with any prophetic gifts,
perhaps this will be sufficient warning to you to take what I say with the
requisite grains of salt.


I


The first trend we might consider together is the way records management is
increasingly serving management. The most self-evident form of this is the
large number of us toiling to help produce the $200,000,000 decrease in the cost
of Government reports asked for in FY 1971 by President Nixon. Other manifes-
tations are the increasing number of management information systems coming into
existence in so many of our agencies.

Records managers find they are increasingly being asked to concern themselves
with the areas of responsibility of the executive. In the case of a Government
agency, I suppose, there are two such major areas. These may be roughly defined
as the area involving the external activities of the agency and then the area
involving the internal activities of the agency. Records play a much more
important part in an executive's discharge of both types of responsibility than
many realize.

In a democracy, the external responsibility concept is particularly important.
This concept is a recognition that a Government agency cannot be regarded as
an autonomous unit since the President, the Congress, the courts and the public
have a right to ask that agency to give a documented account of its actions.
The historic battle over the power of the purse has established for all time, I
think, the obligation of executive agencies to account to the Legislature for
the public funds appropriated to them and this has given rise to what you and I
call financial accounting. This in turn has given rise to a vocation that we

call accountants, and I really don't know what accountants are other than highly specialized records managers. In any event, financial accounting does make it possible for an executive agency of the Government to tell the people how the money entrusted to that agency is spent.

The second external responsibility, I think, of every Governmental agency is to provide evidence admissable in courts as formal legal transactions carried on with particular individuals or groups of individuals. I think all of you can immediately think of the kinds of records that this responsibility creates. The third external responsibility is the executive's answerability to the President and Congressional committees for his specific policies and administrative methods. We have learned that only through an adequate records system is an Administrator equipped to discharge his personal responsibility for the specific policy decisions of himself and his whole chain of subordinates. The final responsibility of an agency, at least of an external character, grows out of its responsibility for providing the public a comprehensive account of its stewardship as to its major missions. A democractic system is premised upon the belief that, if the people are provided with the facts, they will be able to arrive at sound judgments. So the reports required of Government agencies, particularly by the Congress, are recognition of this premise. This premise, also, explains why historians are so anxious that records managers expedite records being put in Archives and being declassified and opened up to them as soon as possible, not 50 years after the event, nor 40 years after the event, but, if possible, 10 years after the event. In this connection, be sure to read Richard Leopold's article in the April 1971 issue of The American Archivist.

When we turn from an executive's external responsibilities to those responsibilities which are peculiarly internal, I think all of us are treading on equally familiar ground. The nature of these responsibilities were articulated, at least in the broad outlines, at the beginning of the century by a Frenchman, Henri Fayol. They were reworked by our own Luther Gulick and Chester Barnes. They were joined in England by Lyndall Urwick. In our own day, the principles of management have received extensive treatment from Douglas MacGregor, Elton Mayo, and Rensis Likert. These men agree that when you start talking about management, you are really talking about several layering of executives. So they tried to ask themselves what does an executive do. What is the real heart and nerve center of the executive's responsibility? The first is planning-- that is, working out in broad outline the objectives that need to be accomplished, the systems for doing them, and the funding required. You and I have always given a very high mark to planning records, but I think it's somewhat to our discredit in that the planning records of the Government usually aren't as well designed and as well segregated from the other records in an organization as they might be.

The writers on management all agree that executives are concerned with organizing, that is, the establishment of the formal structure of authority to its division of work is arranged and defined. Here, I think the agencies are doing a commendable job of recordskeeping. Most of us have organizational manuals with charts and, for the most part, the directives on organization in the Federal Government are superior to those, I find, in industry.

A third responsibility of the executive is staffing, that is the selection and training of the work force. In the records field, we document this responsibility

3

with personnel records, where we do a good, but slow and costly documentation job.

The fourth major component of management is what has often been called command --that is, the continuous task of being the leader--making decisions and embodying them in directives. Here it seems to me that directive systems that you and I have helped develop have been a vital adjunct to this command responsibility of the executive.

Nearly all the writers say that the next major element of management is coordination. Here our correspondence files, with the initials of the cleared officials on the file copy, are crucial. Agency coordination records, however, are rarely as well organized as they ought to be. It seems to me that, at the present time, when the Federal Government is making a kind of gigantic effort to pull together in the new Office of Management and Budget a coordinating force of great value.

The final thing that nearly all of the writers talk about in this management field is control--that is, the executive keeping himself and his staff informed as to how the thousands and even millions transactions going on in the agencies conform to the objectives that have been set so that management can rectify weaknesses and prevent recurrences. Some records creation areas, like contract controls, have been done poorly in most agencies. Other control records, as inventories, have been done well.

One of the worrisome charges leveled at us recently was by the Civil Service Commission which said that records managers don't need a knowledge of the functions, processes, and principles of management. If this is true, it means that you and I, in our recordkeeping work, haven't succeeded in being appendages to the executive and have failed him in his planning, organizing, staffing, command, coordination and control responsibilities. If we are guilty of this, I am sure that we will pay for it and pay for it dearly. My understanding, however, is that the Civil Service Commission is dead wrong for the kinds of reasons I have given this morning in discussing the records management trend of being of greater service to management.

To illustrate still more specifically my point, let's go back to the executive's responsibility for a moment. How do nonplanning records sometimes fit in the planning process in ways that one might not first think of? I remember a few years back in doing some work with the Internal Revenue Service. Some of us felt that the planning of the Internal Revenue Service could be improved if (1) IRS had a very clear notion of what kind of complaints were coming in from people and, (2) if IRS had a clear notion as to the exact kind of errors people were making on the wide variety of tax returns that IRS has to process. This kind of information was already in the files. The difficulty was that, when you wrote a letter of complaint to IRS, the letter and the reply were filed with your tax return as part of a case file. IRS wasn't doing as good planning as it could do because it wasn't segregating out from the files those letters which were primarily letters of complaint. Failure to segregate meant no summarizing was being done of the kind of complaints that were coming in. And the same thing was true about errors. No one was then looking at the tax returns from the point of view of what kinds of errors were being made. Sure,

they were looking at the returns to discover the errors and the taxpayer who
made an error soon found out about it, but was there any pattern to these
errors? Did the same kind of errors recur again and again? If they did
recur again and again, was it the taxpayer's fault or was it possibly Internal
Revenue's fault? Maybe the directives, or the explanatory material, was
written in such an obscure fashion that the taxpayer was really having
difficulty in understanding what in the world Internal Revenue expected of
him. If it was true that there was a kind of pattern to the errors, then
management in IRS had a planning job to do. To me this is an example of the
records manager serving management and using management principles. Hundreds
of other examples could be cited if we had the time, for in the last three
years our NARS Office of Records Management has made about 300 surveys and
audits. A review of these studies indicates that in at least half of the
cases the quality and cost of creating, processing, maintaining and disposing
of information was directly related to the organizational structure and the
assignment of responsibilities and could not be solved without a knowledge
of the functions, processes, and principles of management.


## II

The second trend in records management I would like to mention is the way
equipment considerations dominate too much of our systems work. Records
managers learned a good many years ago to take the systems approach to solving
records problems. Systems cannot be understood apart from the records they
bring into existence and process. Systems can be made visible through flow
charting the documents involved. Seen as a system, and treated as a system,
the recordsmaking and recordskeeping options begin to make sense as the costs
are computed and the benefits are calculated.

Systems are said to have seven characterists - (1) function, (2) input, (3)
output, (4) sequence, (5) environment, (6) equipment, and (7) procedures.
Records managers have tended to concentrate on input and output as being the
areas where they could make their greatest contribution, particularly as
they worked in tandem with the users in the closest possible collaboration.
Now to say equipment tends to dominate the picture is an unhappy trend, to say
the least, for the success of a system is dependent upon six other factors.

Our technological age is spewing forth equipment faster than you and I can
keep up with it - equipment designed to mechanize systems, computerize systems,
and miniaturize systems. No surcease is in sight.

The present slowdown in buying new computers is deceptive. The Department of
Commerce has just completed a marketing study with which I agree. Shipments
of main frame computers are expected to total $4.2 billion in calendar year
1971 (an 11 percent increase over 1970). The figure for 1975 is expected to
be $7.3 billion (a growth of 14 percent annually), while 1980 is expected to
reach $10.2 billion (reflecting a 7 percent annual growth between 1975 and
1980).

At the same time a marketing study by the firm of Frost and Sullivan predicts optical character recognition equipment sales of $300 million in 1971, reaching $2 billion in 1980. By 1975, the OCR industry will handle 25 percent of all input data to computers and will resume its 30 percent annual growth rate.

No one can say records managers haven't awakened to the computer impact. They are making centralized files possible again. They especially are useful in indexing large masses of information, including the contents of large directives systems. Magnetic tapes are now recognized as records, and should be scheduled for disposal as any other records. When they contain permanently valuable informa tion they should be offered to the Archives like other archival documentation. Computers are changing our concepts of form and guide letters. Most of our large reporting systems (as fiscal, supply, logistics, personnel accounting) have computerized data bases, and reports control increasing is computer oriented. Our management information systems, when large scale, increasingly use computer utilities.

The forecasting for microforms is even more spectacular. The National Microfilm Association, with headquarters in Silver Spring, has done considerable market research. In 1971, the microforms industry is expected to do $500 million worth of business. For several years now it has averaged a growth rate between 18 and 20 percent. By 1975, sales are predicted at $1 billion, to grow to $2 billion by 1980, much of this due to the companies now developing or producing COM equipment.

The drive towards miniaturization of Government files seems to be accelerating. Two years ago, with the help of many here today, we compiled a listing of microform projects in the Federal establishment. The list is already hopelessly obsolete. Most large files have microform studies underway - Internal Revenue Service tax returns, military personnel files, law and order records, to name only a few of the largest.

Catalogs for DOD supply operations are now reproduced on a 6-inch x 8-inch microfilm which contains up to 200 pages of information. Arthur D. Little predicts that by using high reduction ratio microfilm that many books of the future will be printed from the film only on demand, eliminating inventory and mailing problems.

Hospitals and doctors will be able to store many more records. The patient of 1975 may carry his complete medical history with him on a microform no bigger than a credit card, making the mobility of the American people less burden-some.

Microfilming of engineering documents, as numerous DOD components have learned, places film in the design engineer's hand. The Boeing 747 was built more efficiently because all blueprints were microfiled for ease and speed in referencing.

Microfilm even shares the entertainment spotlight with Hollywood. COM movie making has already broken into commercial television with an ad for a popular

brand electric razor.  Not only was the image created entirely on film by the computer, the nonmodulated voice of the "man" is computer produced.

In several of our most recent NARS records management studies it was clear that which system we proposed depended upon which equipment we advocated - video file vs computer index vs microfilm.  The cost analysis carried so many factors we had to recheck at great length to see whether we had inadvertently omitted one.  The voluminous work papers had to be given the agencies in question so that the cost figures could be recomputed if contested.  In this connection, the staff at GAO has been doing some excellent doctrinal work in costing.  A small glossary has been issued giving definitions of the various kinds of costing computations which can be made and their general utility.

All that I have been saying about recordmaking and recordkeeping equipment means the analyst making a records study today must be acquainted with at least 4,000 items of equipment on the market - a staggering figure representing a staggering intellectual requirement.  I have in my bookcase 16 volumes of recordsmaking and recordskeeping equipment analysis by Auerbach of Philadelphia.  All the equipment is pictured.  The total number of pictures in the 16 volumes is over 2,800 and the 16 volumes do not cover more than 2/3 of the equipment on the market - for example, copying equipment is omitted.


III


The third trend that concerns me is the extent to which records management analysts are not getting formal, academic-type training in records management. This is another way of saying that most new records analysts are acquiring their knowledge of records management almost exclusively from on-the-job training. This may be the best way to learn about the staggering communications and inter- action requirement large-scale Government places on its executives, who spend somewhere between 70 and 90 percent of their time interacting and communicating directly or indirectly with other people.  This may also be the best way to learn about the political problems of implementing system recommendations and related behavioral aspects.

Yet on-the-job skills acquisition usually fails to pass on a good theoretical understanding of records management.  Analysts find it easy to get out of their depth, not to have an appreciation of concepts, nor to know how various techniques came into being and what the limitations are.  Above all, records management can be defined narrowly.  There are at least 10 definitions of records management. Can on-the-job training be trusted to convey an adequate delineation of all 10 and the implications of each definition?

Records management, as I see it, is an offspring of two older professions-- those of the industrial engineer and the archivist.  The combination obviously did result in a new kind of vocation, but because so many of us don't under- stand who our professional parents are we don't fully understand the kind of mixture we are.  Industrial engineers came into the picture much later than archivists.  They came on the scene, for the most part the latter part of the

last century, and it started pretty much in the Army arsenals and the Navy
shipyards. The Army and the Navy wanted their arsenals and their shipyards
to really be efficient, they wanted them to be exceptionally well-managed.
To do this, they realized that they were going to have to start examining
what each person was doing and how he was doing it.

Frederick Taylor, Henri Fayol, Henry Gantt, Harrington Emerson, Frank Gibreth,
Lyndall Urwick, and others started the systematic study of management systems
with a great deal of emphasis on the scientific approach, going back to philos-
ophers like Descartes and biologists like Pasteur for their concepts. The
concepts of science involved emphasize research on investigation, the analysis
or subdivision of the whole into readily understandable smaller units. These
fathers of industrial engineering achieved the first realization of the basic
nature of systems and how they might be designed.

These founders emphasized and delineated the aspects of the engineering approach:
<u>analysis</u>, "gathering data, describing things as they are, collecting and record-
ing instances, making lists, and so on;" <u>synthesis</u>, "finding connections between
the data made available by the analytical activity, making hypotheses and theories
and developing standards;" and <u>installation</u>, "in which the general principles
comes down to an installable instance."

From their insight into management systems many now famous principles were
enunciated, such as plant layout standards, production control, and motion
economy. In addition, many analytic procedures and techniques involved for
example, time study developed from Taylor's approach, motion study from Gilbreth,
and charting from Gantt. From these men came work simplification, methods
engineering, procedural analysis, and so forth. Even operations research,
with its mathematics, is still a product of subdivision and analysis.

Frank Gilbreth has the most things to say about records management. In fact,
in NARS Charles Sterman and Terry Beach built an entire workshop on one of his
theorems: "It will pay any organization to have a careful record made of the
cost of handling each piece of mail. The results of such a cost investigation
have never, in our experience, failed to turn doubters of the value of the
science of management into enthusiastic exponents, at least so far as process
charts and a standardized standing order system are concerned."

I give so much time to the early founders of industrial engineering because the
genetic approach makes it possible to see an idea in its infancy before it gets
complicated with ifs, ands, buts, and moreovers. Understand the history of an
idea and you will understand it better than those who do not have this additional
background. Of the various founders Frederick Taylor is still the one from
whom we can learn most. Apart from his own writings, one of the most fascinating
books that I have read in my lifetime was a two-volume biography of Frederick
Taylor. I heard Arnold Weber over at the Bureau of the Budget the other day
say that of all of the Americans that have written books that helped him, he
thinks that Taylor was the greatest help to him because from Taylor he learned
what scientific observations could be like. One of Taylor's first jobs, for
example, was at Bethlehem Steel Company, where he went out and watched the men

8

shoveling coal. They were unloading coal cars into piles, and then later onto
conveyers to the blast furnace. Taylor started asking questions about what's
a good day's work, and found the men were all paid at the same rate. So he
started experimenting with shovels. He gave one man a six pound, nine ounce
shovel, he gave another man a seven pound, two ounce shovel, he gave another
man a seven pound, five ounce shovel and asked them to work with it a day.
He asked them to work with as many as ten different shovels over three or
four weeks' time and he finally asked the men, "Of the various shovels that
you have worked with, which of the ten was the most comfortable for you?"
This ultimately led to the men being paid on a piece work basis. No one
had ever thought of approaching a job like this before, breaking it down into
its elements, timing each element separately, and this is why we call it
scientific management. One of the stories that I like about Taylor, and
you can tell hundreds of stories about Taylor, occurred after he retired.
He retired to a little house in the Germantown section of Philadelphia. One
of the reasons why I got interested in this particular story is because I
was in Philadelphia during the war in the records center and "my" records
center wasn't too far from Taylor's old home. I went up to see his house
and looked over the golf course where Taylor played. Taylor was playing with
other retirees and after finishing the 18th hole they reviewed their respective
games. Taylor said, "You know, one of the troubles with this game of golf is
that the course is horrible, the putting green is uneven, when you hit a ball,
you never know where it's going to go, it does loop-de-loops. Even the rest
of the golf course is about as poor." One of his friends said, "Well, you're
an industrial engineer, you're the father of scientific management, surely
you could do something about this." So he went to the directors of the club
and said, "You know, I'd like to improve the golf course." "What do you have
in mind, Mr. Taylor?" "Well, I'd like for you to give me a lot of little
plots of land, maybe as many as a thousand, each one a yard square, and on
each of these yard square plots, I'm going to conduct a little experiment.
I'm going to sow every kind of grass I can find to see which kind of grass
grows best here and how it grows; I'm going to water the grass in a variety
of different ways; I'm going to fertilize it in a lot of different ways; I'm
going to use every different kind of sub-soil I know anything about - I'm
going to vary the layering of sand and gravel and loam." This is precisely
what he did.

Sure enough, some of these little one-yard squares did very well and some
did very poorly and, of course, many members at the golf club got interested
in the experiment because now they could see what Taylor was doing and why
he was doing it. They came out en masse and started looking at the grass.
They finally decided that plot number 77 was just the right one for a putting
green, that plot number 12 would do very well for the rest of the golf course.
This was just about the time that the professionals in golfing decided that
it was time for them to organize and they organized the American Golfing
Association with headquarters down at Palm Beach. They asked Taylor to come
down to Palm Beach and tell them about his Philadelphia experiments, which
he was very happy to do. In 1915, the American Golfing Association issued
standards. It said that any club that wanted to belong the the American
Golfing Association must use the specified grass and sub-soil arrangement on

its putting greens and for the rest of the golf course another specified grass and kind of sub-soil arrangement would have to prevail. Those standards issued in 1915 are still followed today. Now, I told this story because Taylor was wrestling with the way to design a system, and he ultimately came out with the four step approach that most of us here today still use:

1. "The study is inaugurated by the accurate presentation of some problem or difficulty within an existing system - 'problem identification'.

2. The existing system is analyzed or divided into small units or components, in effect, fitting one or more models to the current work, with numeric values or symbolic forms, or both, representing the system's operation.

3. These small units are reviewed to learn what the system is and what is wrong with it, by manipulating the models to find possible rearrangement of or changes in the current system. Many activities can be eliminated or modified.

4. The remaining changed or new elements are recombined into a new system or optimum arrangement together with necessary performance measurements and controls."

At this point you may very well be saying, "So what?" I return to my trend statement that records managers are decreasingly getting formal training, and I submit to you that on-the-job training will not pause at this point in a person's development to raise the question: What assumptions underlay the views of the founding industrial engineers? Subsequent writers of our own generation have listed from 6 to 9 assumptions and have asked to what extent have they served as restrictions. Theoretical discussions of this kind are paramount to a professional understanding his profession.

The Harvard Business School, at great cost I might add, in its graduate level work depended heavily on case studies. On-the-job training is usually limited to case studies of the employing organization. This can be frighteningly narrow. Suppose the employing organization has never made a correspondence management survey? (It is amazing how many Federal agencies have not made one.) Suppose the organization has never made an OCR study? Or an COM study? Where does on-the-job training leave the junior analyst?

Our office made a systems study of the Passport Office in 1960. Miss Frances Knight, head of the Passport Office, praised us for the comprehensiveness and workability of the new system we installed. Now, in 1971, we are there again and Miss Knight is again hopeful we can come through. What caused a good system to go haywire in 10 years? Will you believe that a system designed for 900,000 applications annually won't work well for 3,000,000 applications annually? This kind of case study post-mortem provides me with much of what I know.

In formal training the student is by no means limited to the experience of his employer. The training can rely upon the entire Federal establishment

10

for case material and the implications of those cases.  In short, I am not happy about our present training trend.


IV

The last trend I would like to mention is that <u>the privacy issue on files won't go away until it is settled</u>.  For the last five years we have seen Congressional committees repeatedly inquire into the kinds of dossiers the Government is compiling on individuals and what use is being made of these dossiers.

The role of the records management analyst so far has been to help with the recordsmaking or recordskeeping system.  Shall it be computer generated?  Shall OCR be used?  Shall it be indexed?  How many data elements per individual will the system process?

But the interest of the Congress (and probably the public, too) is in access.

Project SEARCH (System for Electronic Analysis and Retrieval of Criminal Histories) is a nationwide computer network of law enforcement agencies at the state, local and Federal level, the purpose of which is to provide for an interchange of individual criminal histories.  Realizing the access problem, the members of the SEARCH policy making group established a Security of Records Subcommittee, whose findings were reviewed by a Privacy and Security Committee, composed of some of the police and public safety persons in the United States. Working for over a year, this committee's recommendations were finally reviewed by the SEARCH policy making group.  Their report was published in July 1970 as Technical Report 2, "Security and Privacy Considerations in Criminal History Information Systems."  I believe some of their proposition bear repetition this morning:

"a. Data must be limited to that of public record and to official reports.  No information gained by intelligence or 'tips' should be included within the system.

b. All entries must be updated with dispositions and explanatory actions as they develop.

c. A systematic system of purging must be adopted to include the complete withdrawal from the file of the first offender in the event he were exonerated.

d. No information other than criminal justice information should be included within the files, to exclude tax records, military records, credit information, civil court actions, or other data such as membership in organizations.

e. Access to the system would be limited to criminal justice personnel and all persons would be required to provide need-to-know documentation if called upon.

    f.  The individual citizen's right of access to and challenge of the contents of his records should form an integral part of the system.

    g.  Civil remedies should be provided for those injured by misuse of the system.

    h.  An advisory committee should be established to provide policy direction within the listed guidelines and to entertain complaints as regards violations of these guidelines."

It is my understanding that these guidelines will not be adopted, but good records management requires written rules for access of all priviledged files. The Census files and the IRS tax return files provide us models in this respect, except we have no ultimate disposal standards for all of them. In many cases the rules on access should take the form of legislation, although I suppose the Executive Branch would not look kindly on this.

NARS in its agency audits will probably have to start bringing the privacy question within the purview of the audits, where applicable. It is too important an issue to remain unresolved.

"Following Mr. Alldredge's talk, IRAC presented him on the eve of retirement from Federal service, with a scroll signed by the membership. The scroll reads as follows:

'With This Scroll
We Honor
EVERETT O. ALLDREDGE

'For distinguished public service matched by few Government employees; for boldness, tenacity, and energetic leadership in carrying out the Federal Records Act; for imaginative innovation in the quest for excellence in the management of Government paperwork; for unwavering zeal and dedication to a worthy cause; and for innumerable acts of friendship.

'Presented on behalf of the thousands of Government personnel engaged in information and records management:'"